Amendments to the Claims

Claims 1-31 (Canceled)

Claim 32 (Currently amended)

A method for the differentiated examination of various structures in a biological preparation using a microscope, said method comprising the steps of:

A) assigning particles with a specific diameter and specific characteristics to said structures; ~~and~~

B) detecting said structures by detecting said particles specifically bound in or on said structures of said preparation using a light that acts on said particles, said particles possessing constant characteristics independent of the time of irradiation by said light[[.]];

C) recording an image of said detected particles and at least one microscopic image of said structures using the microscope; and,

D) evaluating said recorded images using digital image processing.

Claim 33 (Previously presented)

The method as recited in Claim 32, wherein said particles are detected by selecting a wavelength of suitable light being as a function of said diameter and of said specific characteristics of the particles such that said particles are detected on the basis of a Mie scatter occurring on said particles.

Claim 34 (Previously presented)

The method as recited in Claim 32, wherein said particles are detected by selecting a wavelength of a suitable light as a function of said diameter and of said specific characteristics of said particles such that said particles are detected on the basis of a plasmon signal occurring on said particles.

Claim 35 (Previously presented)

The method as recited in Claim 33, wherein said wavelength of said light is larger than, or is approximately equal to, said diameter of said particles.

Claim 36 (Previously presented)

The method as recited in Claim 32, wherein areas of said preparation to be differentiated are provided with particles of various diameters, so that said areas to be differentiated are detected simultaneously or successively by means of suitable light of various wavelengths.

Claim 37 (Previously presented)

The method as recited in Claim 32, wherein said particles are metallic particles or particles metalized on the surface.

Claim 38 (Previously presented)

The method as recited in Claim 37, wherein said particles are formed as ellipsoids or beads.

Claim 39 (Previously presented)

The method as recited in Claim 33, wherein said particles are detected through the Mie-reflexes occurring there in transmission microscope mode.

Claim 40 (Previously presented)

The method as recited in Claim 39, wherein said microscope is a conventional polarization transmission microscope or a confocal polarization transmission microscope.

Claim 41 (Previously presented)

The method as recited in Claim 33, wherein the specific detection of the particles is achieved via the Mie-reflexes occurring there in the reflection microscope mode.

Claim 42 (Currently amended)

The method as recited in Claim [[10]]41, wherein said microscope is a conventional polarization reflection microscope or a confocal polarization reflection microscope.

Claim 43 (Previously presented)

The method as recited in Claim 32, wherein said light is produced using a high-pressure lamp as a light source.

Claim 44 (Previously presented)

The method as recited in claim 43, wherein said light source comprises means for wavelength selection and polarization.

Claim 45 (Previously presented)

The method as recited in Claim 32, wherein said light is produced using a laser as a light source, said laser emitting polarized light of one wavelength.

Claim 46 (Previously presented)

The method as recited in Claim 32, wherein said light is produced using an optical parametric oscillator as a light source, the wavelength of said light being variable using said optical parametric oscillator, whereby a maximum Mie-signal for a specific particle type can be measured.

Claim 47 (Previously presented)

The method as recited in Claim 32, wherein said light is produced using a laser as a light source, said laser emitting polarized light of several different wavelengths, and means for selecting wavelengths is connected in series to said laser.

Claim 48 (Previously presented)

The method as recited in Claim 47, wherein said means for selecting wavelengths is integrally connected in to said laser.

Claims 49-53 (Canceled)

Claim 54 (Previously presented)

The method as recited in Claim 32, wherein said particles are coated on the surface and the coating enables a specific bonding to corresponding complementary structures of said preparation.

Claim 55 (new)

The method as recited in Claim 32, wherein said at least one microscopic image comprises a conventional transmitted light microscopic image.

Claim 56 (new)

The method as recited in Claim 32, wherein said at least one microscopic image comprises a conventional reflected light microscopic image.

Claim 57 (new)

The method as recited in Claim 32, wherein said at least one microscopic image comprises a conventional transmitted light microscopic image and a conventional reflected light microscopic image.

Claim 58 (new)

The method as recited in Claim 32, wherein said at least one microscopic image comprises a plurality of conventional transmitted light microscope images and conventional reflected light microscope images, wherein said conventional transmitted light microscope images and conventional reflected light microscope images are obtained under a plurality of lighting and detection angles.